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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/574,715	03/27/2006	Nobuhiro Hayashi	4439	4988

7590 04/20/2009

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EXAMINER	
SMITH, FRANCIS P	

ART UNIT	PAPER NUMBER
1792	

MAIL DATE	DELIVERY MODE
04/20/2009	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/574,715	HAYASHI ET AL.	
	Examiner	Art Unit	
	Francis P. Smith	1792	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *27 March 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-5* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-5* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on March 31, 2009 has been entered.

Election/Restrictions

2. Claims 8-10 are directed to an invention that is independent or distinct from the invention originally claimed for the following reasons: Floyd Carothers, Esq. elected the invention of group 1 (claims 1-7) without traverse on March 26, 2008.

Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claims 8-12 are withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03. **Affirmation of this election must be made by applicant in replying to this Office action.**

Claim 1 is amended; claims 6-7 and 11-12 are canceled. Claims 1-5 are currently examined on the merits.

Claim Rejections - 35 USC § 103

3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

4. Claims 1-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Makoto et al. (JP 2002-358633) in view of Okuda et al. (US 5,258,074), Honda et al. (US 6,195,249) hereinafter '249, and Honda et al. (US 6,413,456) hereinafter '456 .

Regarding claims 1 and 4, Makoto teaches a method of manufacturing magnetic recording media. Specifically, the process for manufacturing the magnetic recording medium consists of a processing step of electrifying a polymer film in the traveling state (e.g. an insulating material base film is continuously fed out). The polymer film is kept in tight contact with the cooling roll by electrification of the traveling polymer film (i.e. cooled in close contact with a cooling roller) (see abstract). Furthermore, a metal is evaporated onto said insulating material base film to deposit a metal film thereon [0029]. An electron gun is installed in the upper wall of the vacuum chamber to pass along the center line of the cooling roller and to cross the direction of the high polymer film as it is conveyed (i.e. charging the insulating material base film) [0021]. Makoto does not teach applying a voltage/charging after the deposition of the metal film, forming a mask pattern by depositing an oil (claim amendment), or plasma-bombarding the insulating material base film (claim amendment).

Okuda teaches an evaporation apparatus featuring a voltage applying and current measurement means. Specifically after a metal film is deposited on a substrate

film, a voltage is applied to the metal membrane-deposited film substrate, which is applied between the auxiliary roller (i.e. roller 7a) and cooling roller to ensure that the metal membrane adheres to the film substrate with great strength (as per claim 4) (col. 3, lines 47-63; col. 4, lines 4-32; see fig. 1). Therefore, it would have been obvious to one skilled in the art at the time of the invention to apply a voltage after depositing a metal film in Makoto's method as taught by Okuda in order to enhance the cooling efficiency of the substrate by promoting adherence to the drum and to ensure that the metal membrane binds to the film substrate with a favorable strength.

Makoto/Okuda do not expressly teach forming a mask pattern by depositing an oil (claim amendment), or plasma-bombarding the insulating material base film (claim amendment).

'249 teaches electronic components having gaps between conductive thin films whereby oil can be used for patterning a metal thin film. Specifically, oil is applied in a small amount in accordance with the pattern before the formation of the metal thin film such that the metal is not formed on the oil pattern (see col. 5, lines 35-45). Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention to utilize an oil pattern for depositing metal films in Makoto/Okuda since '249 teaches that it was know to do so with the reasonable expectation of success. Makoto/Okuda/'249 do not expressly teach plasma bombarding an insulating material.

'456 teaches a method for manufacturing electronic parts whereby metal thin films are deposited on a substrate. After deposition, '456 teaches a plasma irradiation step (e.g. removing electrical charge on said insulating base film) in order to remove

extra patterning material (col. 5, lines 57-65). Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention to utilize an irradiation step in Makoto/Okuda/'249 as taught by '456 in order to remove extra patterning material.

As per claims 2 and 3, Makoto teaches an electron gun such that the electron beam can be scanned to the length direction of a cooling roller, the cross direction of the substrate film in which it runs (e.g. charging said insulating material base with charged particles while being scanned in the width direction of the insulating material base film as it is in contact with said cooling roller) ([0021], see drawing 1).

Regarding claim 5, Makoto teaches using a measuring device consisting of a piezoelectric sensing element 26, which is capable of controlling the applying voltage as to place the surface potential within a predetermined range ([0017], see drawing 1).

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Francis P. Smith whose telephone number is (571) 270-3717. The examiner can normally be reached on Monday through Thursday 7:00 AM-5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mikhail Kornakov can be reached on (571) 272-1303. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/F. P. S./
Examiner, Art Unit 1792
/Michael Kornakov/
Supervisory Patent Examiner, Art Unit 1792